



GoldStar

Service Manual

TSR-930

4 BAND STEREO CASSETTE RECORDER


TSR-930 (MW/LW/SW/FM)



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PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them can not necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements, electrical components having such features are identified by a  in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

SPECIFICATIONS

MW Performance Specifications

	Test Item	Measured at (kHz)	Unit	Nominal	Limit
1.	Frequency coverage	—	kHz	515–1650	—
2.	Intermediate frequency	—	kHz	455	—
3.	Sensitivity (S/N 20 dB)	600	dB	—	54
		1000	dB	—	54
		1400	dB	—	54
4.	S/N ratio at 5mV/m input	1000	dB	—	36
5.	Selectivity	1000	dB	—	20
6.	THD	1000	%	—	5
7.	AGC figure of merit	1000	dB	—	45
8.	Image rejection ratio	1400	dB	—	30
9.	IF rejection ratio	600	dB	—	30
10.	Band width	1000	kHz	—	4~7
		1400	kHz	—	4~7
11.	Tracking error	1000	dB	—	3
12.	Audio frequency response	100Hz	dB	—	±6
		2 kHz	dB	—	-6

LW Performance Specifications

	Test Item	Measured at (kHz)	Unit	Nominal	Limit
1.	Frequency coverage	—	kHz	140–360	—
2.	Usable Sensitivity	160	dB	—	65
		230	dB	—	65
		330	dB	—	65
3.	S/N ratio	230	dB	—	30
4.	IF rejection ratio	—	dB	—	26
5.	Image rejection ratio	—	dB	—	26

SW Performance Specifications

	Test Item	Measured at (kHz)	Unit	Nominal	Limit
1.	Frequency coverage	—	MHz	5.7–18.5	—
2.	Usable Sensitivity	—	dB	—	35
3.	Maximum Sensitivity	—	dB	—	45
4.	S/N ratio	—	dB	—	40
5.	Image rejection ratio	—	dB	—	3

FM Performance Specifications

	Test Item	Measured at (MHz)	Unit	Nominal	Limit	
1.	Frequency coverage (*)	—	MHz	88 — 108	—	
2.	Intermediate frequency	—	MHz	10.7	—	
3.	Sensitivity at 50mW output	90	dB	15	20	
		98	dB	15	20	
		106	dB	15	20	
4.	Image rejection ratio	106	dB	—	26	
5.	IF rejection ratio	90	dB	—	60	
6.	T.H.D.	98	%	—	2	
7.	Audio frequency response (100—10kHz)	98	dB	—	0±3	
8.	Stereo separation at	100Hz	98	dB	—	20
		1000Hz	98	dB	—	20
		10kHz	98	dB	—	20
9.	Automatic frequency control	98	kHz	—	300—700	

* For FTZ standard, Nominal specs shall be from 87.35 MHz to 108.25.

Tape Performance Specifications

	Test Item		TEAC Test Tape	Unit	Nominal	Limit
1.	Tape speed		MTT-111	cm/sec	—	±2
2.	Wow & flutter (WRMS)		MTT-111	%	—	0.2
3.	Channel cross-talk		MTT-141 W/BPF	dB	—	30
4.	Track cross-talk		MTT-121 W/BPF	dB	—	40
5.	S/N ratio (Mic only)	Play	MTT-112S	dB	—	46
		Record/Play	MTT-502		—	40
6.	Frequency Response (Normal)	Play	MTT-216	dB	—	±6
		Record/Play	MTT-502		—	±6
7.	Fast forward time		C60	sec	—	105
8.	Rewind time		C60	sec	—	105
9.	Erase ratio		MTT-502	dB	—	55
10.	Output (10% THD)		MTT-112	W	—	4.5
11.	Tone effect	100 Hz	—	dB	—	±8
12.	THD	Play	MTT-118	%	—	3

NOTE: Nominal specs represent the design specs: all units should be able to approximate these—some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition which still might be considered acceptable: in no case should a unit perform to less than within any limit spec.

DISASSEMBLY INSTRUCTIONS

To Remove Front Cabinet

1. Remove the four screws(A) and the one (B) in the battery box from the rear cabinet. (See figure 1.)
2. Remove the two screws (C) from the base side of set. (See figure 2.)
3. Pull out the CNT6 from the main PCB and the CNT2 from the RF PCB.

To Remove Main PCB

1. Remove the record hook on the deck mechanism.
2. Remove the two screws (D) from the base side of set. (See figure 2.)
3. Pull out all the connectors on the main PCB.

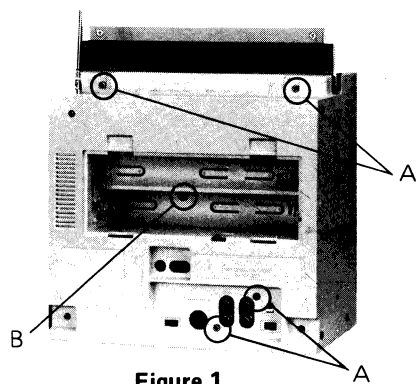


Figure 1

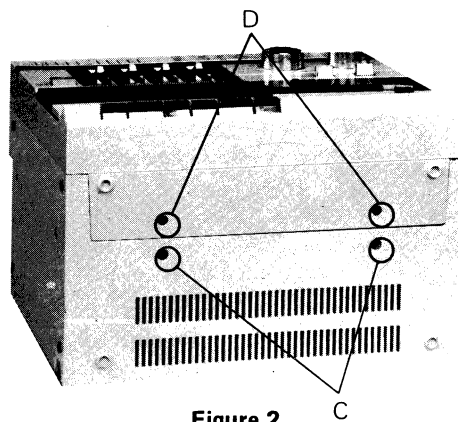


Figure 2

To Remove RF PCB

1. Pull out the two knobs—Band selector, Tuning.
2. Remove the three screws (E) on the RF PCB. (See figure 3.)

To Remove Volume PCB.

1. Remove the three screws all on the Volume PCB.
2. Remove the four knobs on the chassis—Base, Treble, Balance and volume.
3. Push the three protrusive parts on the Volume PCB and separate the chassis from the Volume PCB.

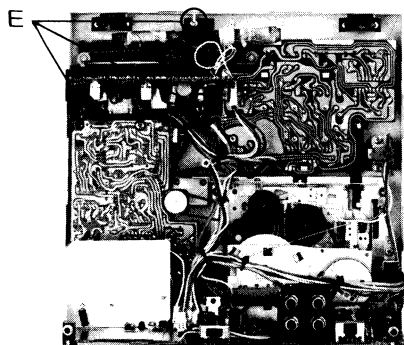


Figure 3

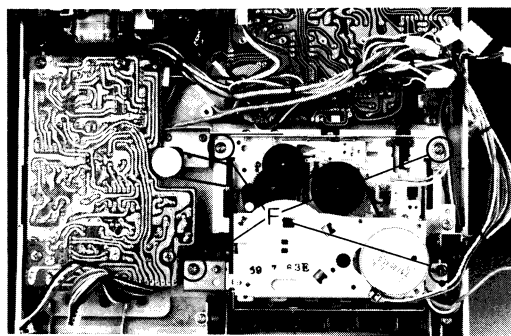
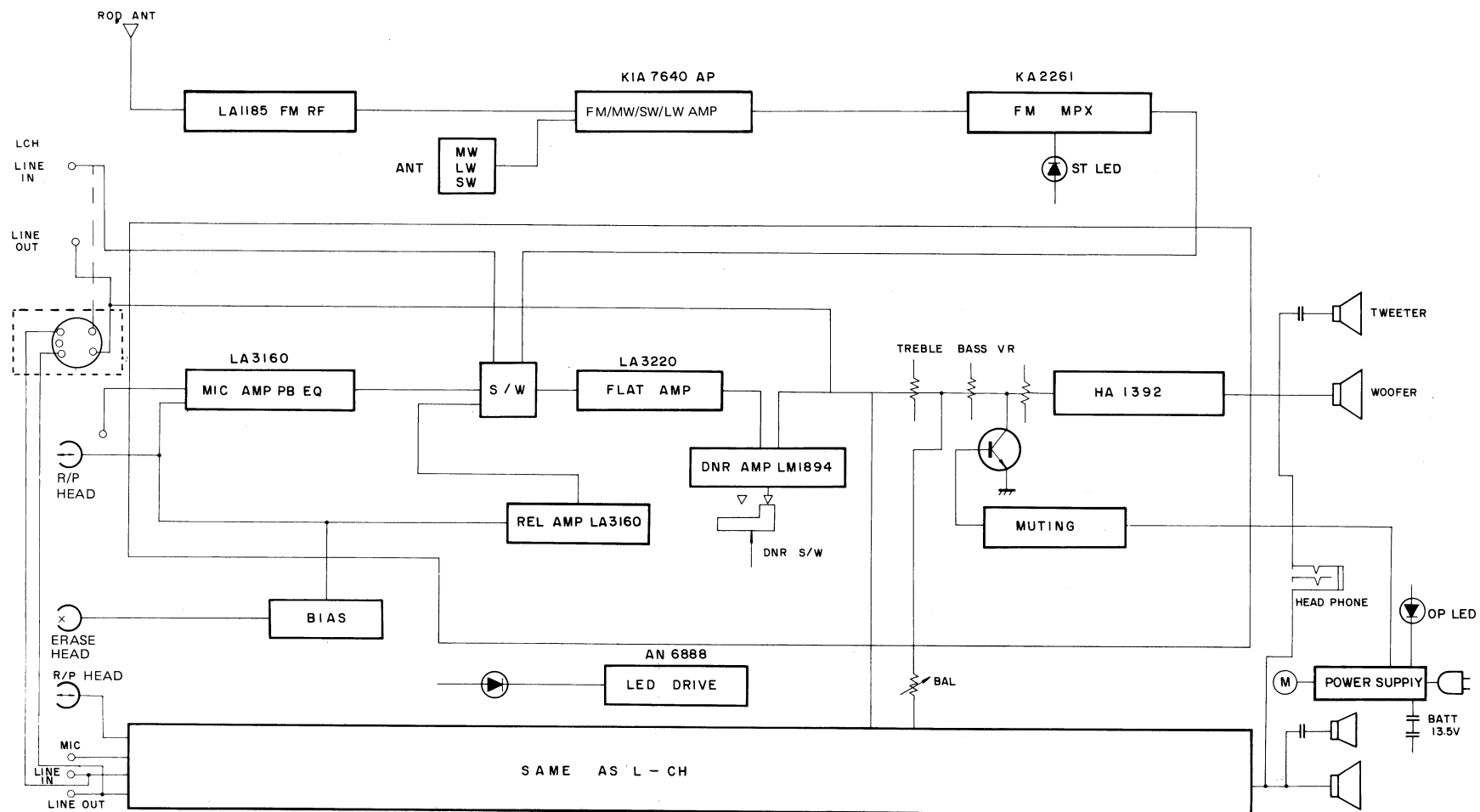


Figure 4

To Remove Cassette Deck

1. Open the cassette door with Pressing the eject button.
2. Remove the four screws (F) on the deck mechanism. (See Figure 4.)

BLOCK DIAGRAM



DIAL CORD STRINGING

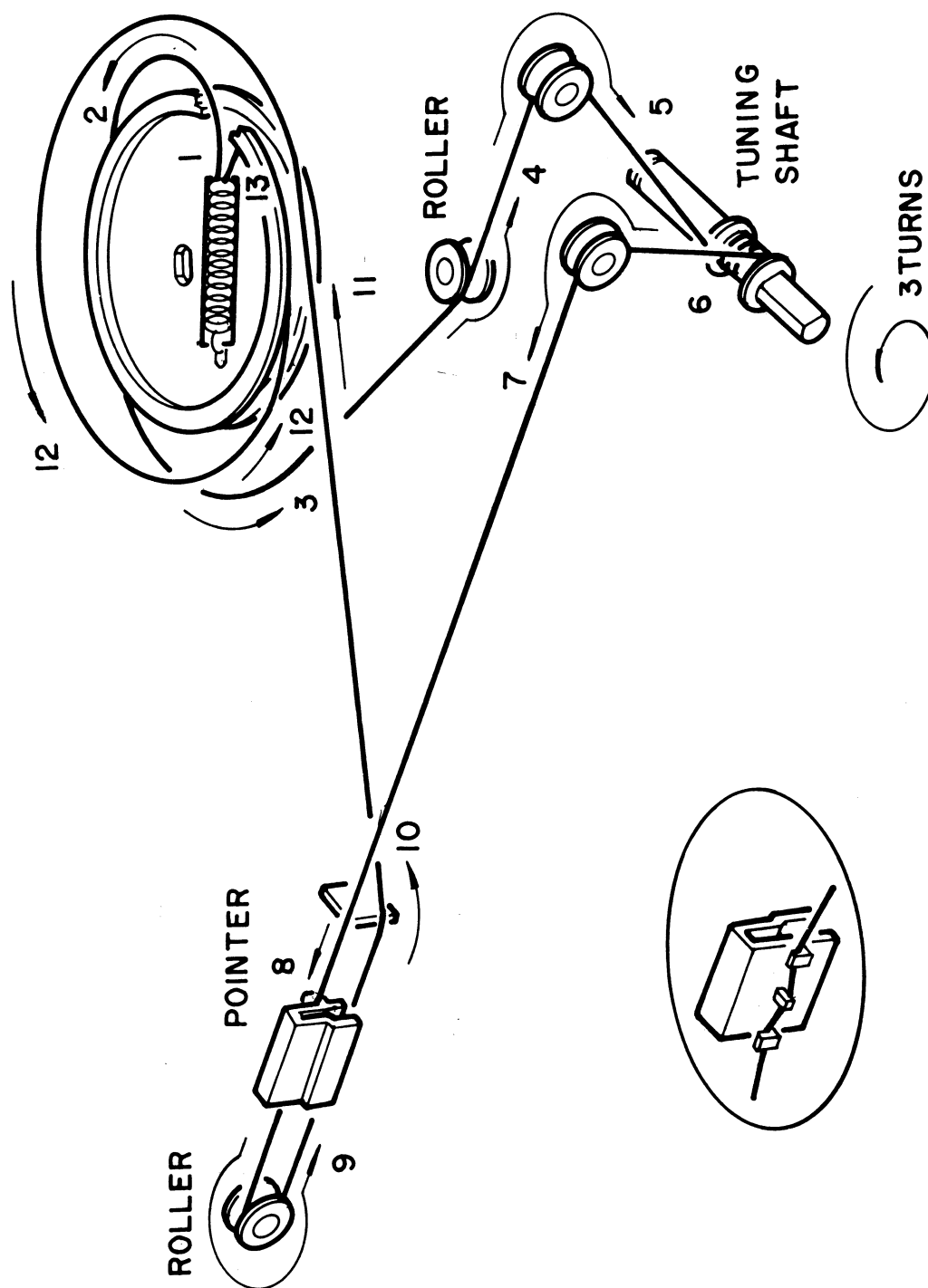


Figure 5

Set the tuning capacitor to minimum frequency and string the cord following the number in figure 5.

ALIGNMENT INSTRUCTIONS

Equipment Needed

1. AM Signal Generator
2. FM Signal Generator
3. IF Sweep Generator with marker Capabilities
4. FM Stereo Signal Generator
5. Oscilloscope
6. Output Meter (VTVM)
7. Frequency Counter
8. Nonmetallic Alignment Tools

Important

1. Check power-source voltage.
2. Set the function switch to band being aligned.
3. Turn volume control to minimum unless otherwise noted.
4. Connect low side of signal source and output indicator to chassis ground unless otherwise specified.
5. Keep the signal input as low as possible to avoid AGC and AFC action.
6. Standard modulation is 1000 Hz at 30% for AM. (1000 Hz at 75 kHz deviation for FM)

Radio Section

Test and adjustment points.

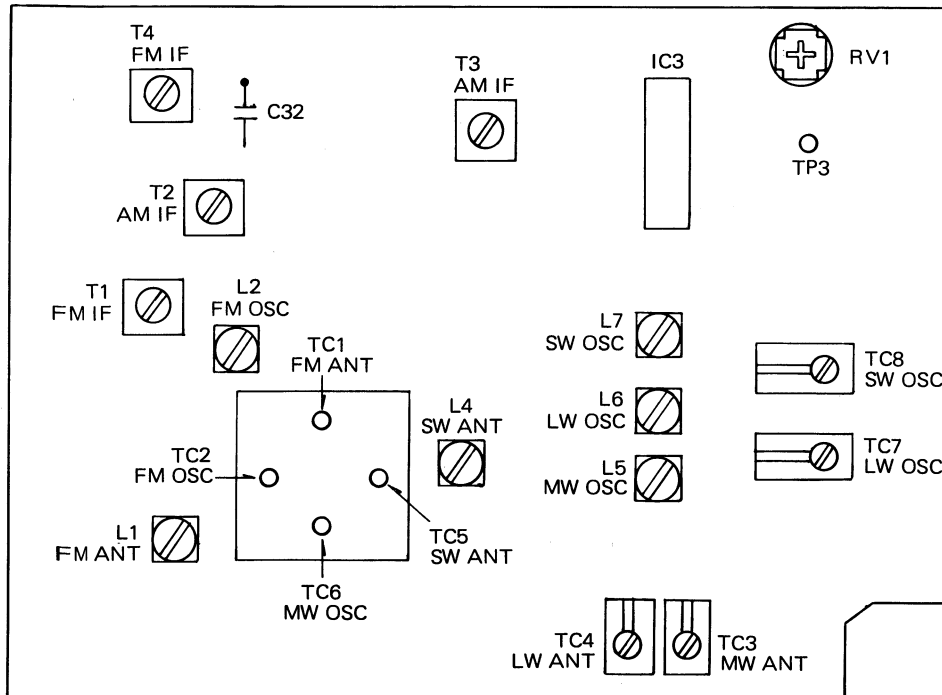


Figure 6. RF P.C. Board

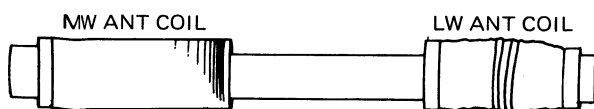


Figure 7. Ferrite bar antenna (L3)

MW Section

Circuit Alignment	Equipment Connection	Step	Generator Frequency	Dial Setting	Adjustment
IF	AM Signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 8)	1	455 kHz (1 kHz Mod.)	Tuning Gang fully closed	T2, T3 (AM IFT). Adjust for maximum output.
		2			Repeat until no further improvement can be made.
Band	AM Signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 9)	3	515 kHz (1 kHz Mod.)	Tuning Gang fully closed	L5 (MW OSC. Coil). Adjust for maximum output.
		4	1650 kHz (1 kHz Mod.)	Tuning Gang fully open	TC6 (MW OSC. Trimmer). Adjust for maximum output.
		5			Repeat steps 3 & 4.
Tracking	AM Signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 9)	6	600 kHz	Tune to signal	L3 (MW Ant. Coil). Adjust coil on ferrite core for maximum output.
		7	1400 kHz	Tune to signal	TC3 (MW Ant. Trimmer). Adjust for maximum output.
		8			Repeat steps 6 & 7 several times.

LW Section

Circuit Alignment	Equipment Connection	Step	Generator Frequency	Dial Setting	Adjustment
IF	AM Signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 8)	1	455 kHz (1 kHz Mod.)	Tuning Gang fully closed	T2, T3 (AM IFT). Adjust for maximum output.
		2			Repeat until no further improvement can be made.
Band	AM Signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 9)	3	140 kHz (1 kHz Mod.)	Tuning Gang fully closed	L6 (LW OSC. Coil). Adjust for maximum output.
		4	360 kHz (1 kHz Mod.)	Tuning Gang fully open	TC7 (LW OSC. Trimmer). Adjust for maximum output.
		5			Repeat steps 3 & 4.
Tracking	AM Signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 9)	6	160 kHz	Tune to signal	L3 (LW Ant. Coil). Adjust coil on ferrite core for maximum output.
		7	330 kHz	Tune to signal	TC4 (LW Ant. Trimmer). Adjust for maximum output.
		8			Repeat steps 6 & 7 several times.

SW Section

Circuit Alignment	Equipment Connection	Step	Generator Frequency	Dial Setting	Adjustment
IF	AM Signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 8)	1	455 kHz (1 kHz Mod.)	Tuning Gang fully closed	T2, T3 (AM IFT). Adjust for maximum output.
		2			Repeat until no further improvement can be made.
Band	AM Signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 11)	3	5.7 MHz (1 kHz Mod.)	Tuning Gang fully closed	L7 (SW OSC. Coil). Adjust for maximum output.
		4	18.5 MHz (1 kHz Mod.)	Tuning Gang Fully open	TC8 (SW OSC. Trimmer). Adjust for maximum output.
		5			Repeat steps 3 & 4
Tracking	AM signal Generator with loop antenna. Output Meter (VTVM) across 4 ohm load. (Figure 11)	6	6.5 MHz	Tune to signal	L4 (SW Ant. Coil). Adjust for maximum output.
		7	16 MHz	Tune to signal	TC5 (SW Ant. Trimmer). Adjust for maximum output.
		8			Repeat steps 6 & 7 several times.

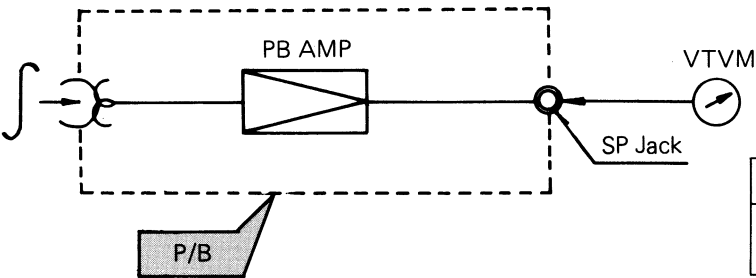
FM Section

Circuit Alignment	Equipment Connection	Step	Generator Frequency	Dial Setting	Adjustment
IF	IF Sweep Generator Marker Generator to FM Ant. Terminals. Oscilloscope across TP (C32) (Figure 10)	1	10.7 MHz	Tuning Gang fully closed	T1, T4 (FM IFT). Adjust for maximum symmetrical response (10.7 MHz at the center point).
		2			Repeat Step 1.
Band	FM Signal Generator to antenna terminals through 75 ohm antenna matching Network. Output Meter (VTVM) across 4 ohm load. (Figure 12)	3	87.35 MHz (Mod.)	Tuning Gang fully closed	L2 (FM OSC. Coil). Adjust for maximum output.
		4	108.25 MHz (Mod.)	Tuning Gang fully open	TC2 (FM OSC. Trimmer). Adjust for maximum output.
		5			Repeat steps 3 & 4 Several times.
Tracking	FM Signal Generator to antenna terminals through 75 ohm antenna matching network. Output Meter (VTVM) across 4 ohm load. (Figure 12)	6	90 MHz (Mod.)	Tune to signal	L1 (FM Ant Coil). Adjust for maximum output.
		7	106 MHz (Mod.)	Tune to signal	TC1 (FM Ant Trimmer). Adjust for maximum output.
		8			Repeat Steps 6 & 7 to obtain suitable sensitivity at 90 MHz and 106 MHz.

FM MPX

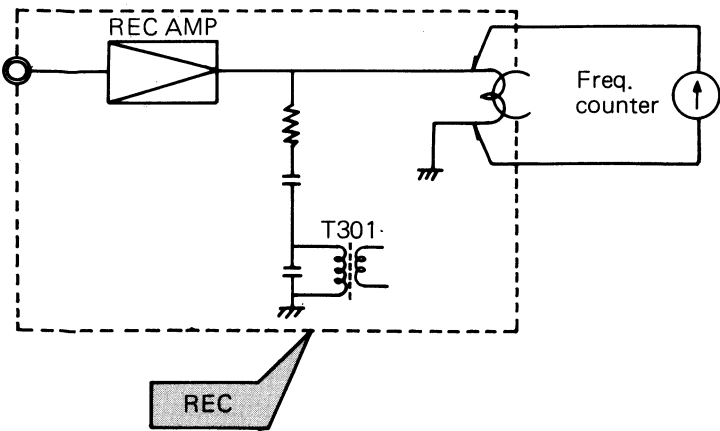
Circuit Alignment	Equipment Connection	Step	Generator Frequency	Dial Setting	Adjustment
19±0.1	FM Stereo Generator composite out connected to Ext. Mod of FM Signal Generator. FM Signal Generator to antenna terminals matching 75 ohm antenna matching network. Frequency Counter across TP3 (pin No.12 of IC3). (Figure 13)	1			First make sure FM section properly aligned.
		2	98 MHz (1 mV output)	98 MHz	Adjust RV1 for Frequency Counter indicates 19±0.1 kHz.

Azimuth Adjustment



Input	Adjust for	Adjustment
MTT-114 (10 kHz)	Maximum	Azimuth Adjusting screw

Bias Frequency Adjustment



Input	Adjust for	Adjustment
No signal	70±2 kHz	T301

NOTE. RIF S/W: "1" position.

TEST EQUIPMENT CONNECTIONS

Figure 8 AM IF

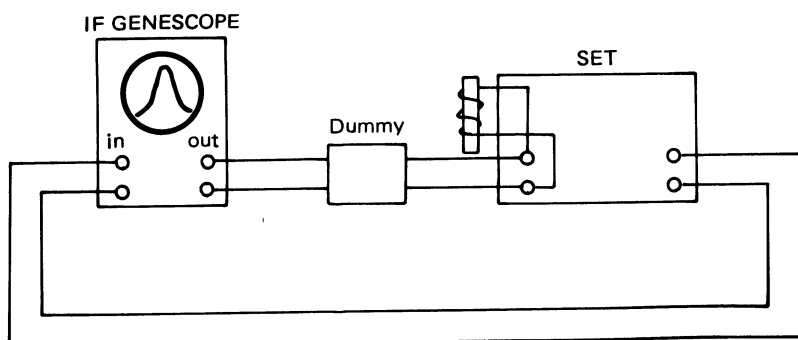


Figure 9 LW and MW Band/Tracking

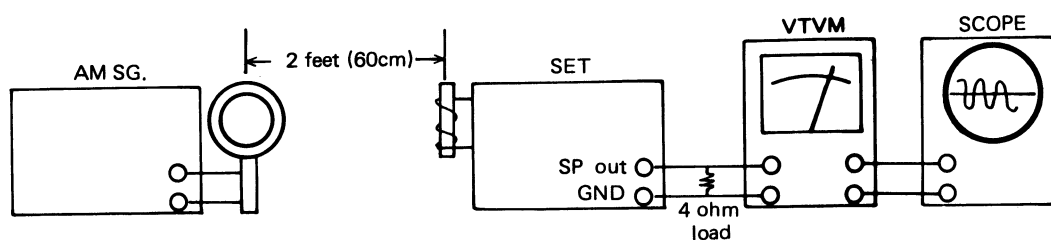


Figure 10 FM IF

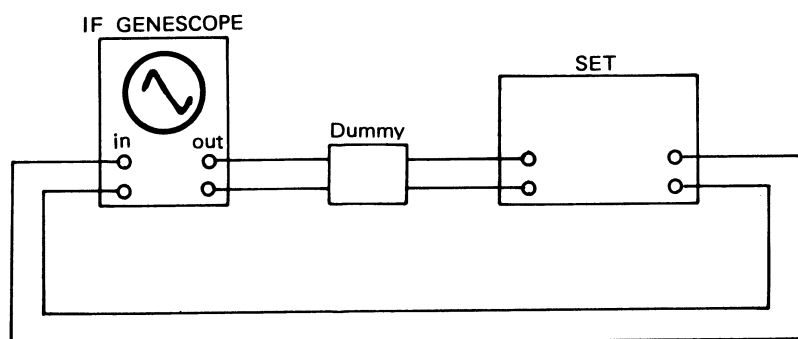


Figure 11 SW Band/Tracking

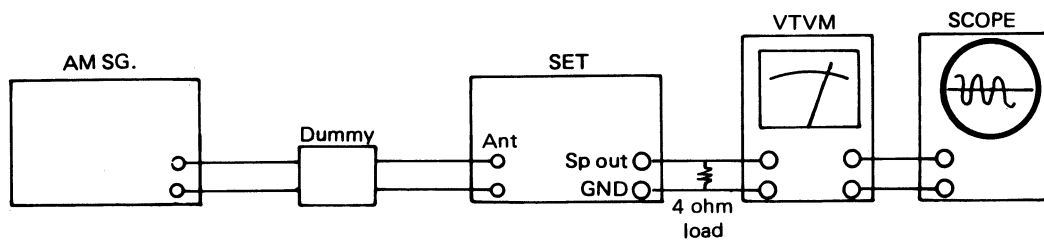


Figure 12 FM Band/Tracking

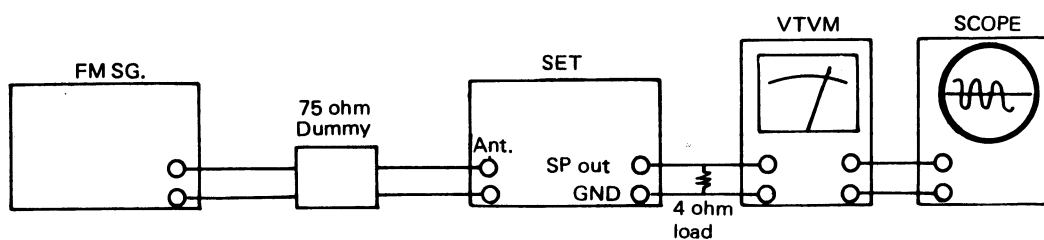
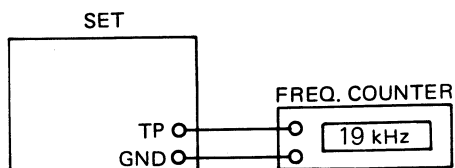


Figure 13 19 kHz Pilot

STANDARD MAINTENANCE

Tape Head and Capstan Cleaning

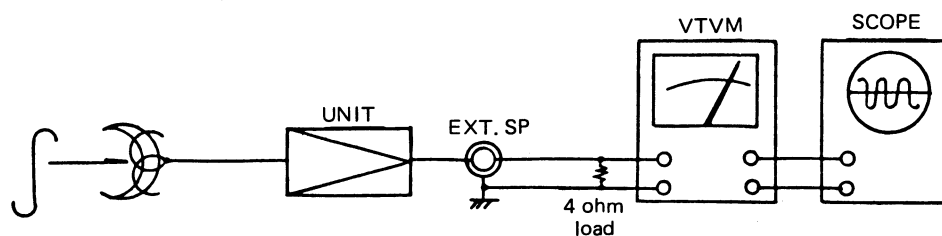
Whenever a unit is brought in for service or repair, clean the tape heads, capstan drive shaft and other tape handling surfaces to ensure proper tape handling and optimum frequency response. Use a cotton swab dipped in head cleaner or denatured alcohol to clean all tape handling surfaces. Wipe dry.

Tape Head Demagnetization

Do not use magnetized tools near the tape heads, since they can magnetize the heads. After long period of use, the heads will retain a small amount of residual magnetism. A magnetized head will result in loss of high frequency response and increased noise. Use a standard tape head demagnetizer and follow the instructions supplied with it to demagnetize the heads.

Azimuth Adjustment

1. Azimuth adjustment is normally required when the head is replaced, or for cases of cross-talk and poor high frequency response. A test tape is required for such adjustment.
2. Connect a scope or VTVM to the right channel EXT. SP jack. Inset a test tape into the unit (use a test tape such as TEAC MTT-114, MTT-115). Adjust the azimuth adjustment screw for maximum output onto the right channel. Use glyptal or other non-hardening cement to lock the azimuth adjustment screw.



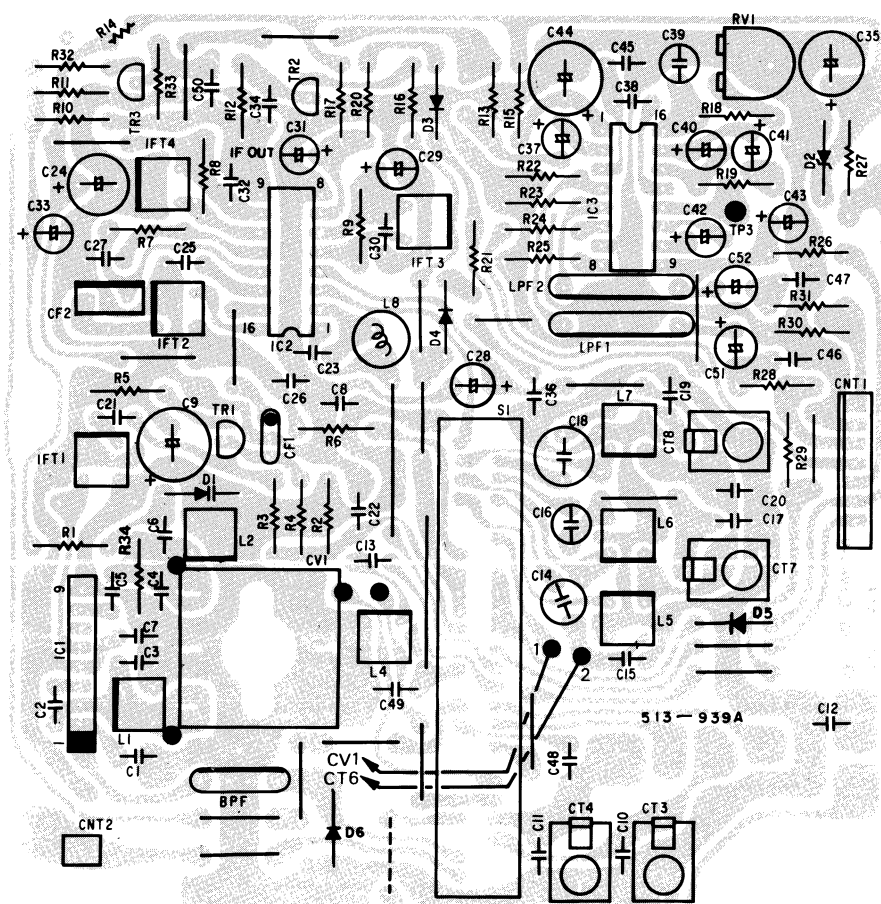
(Left channel is the same as right)

MAIN P. C. BOARD

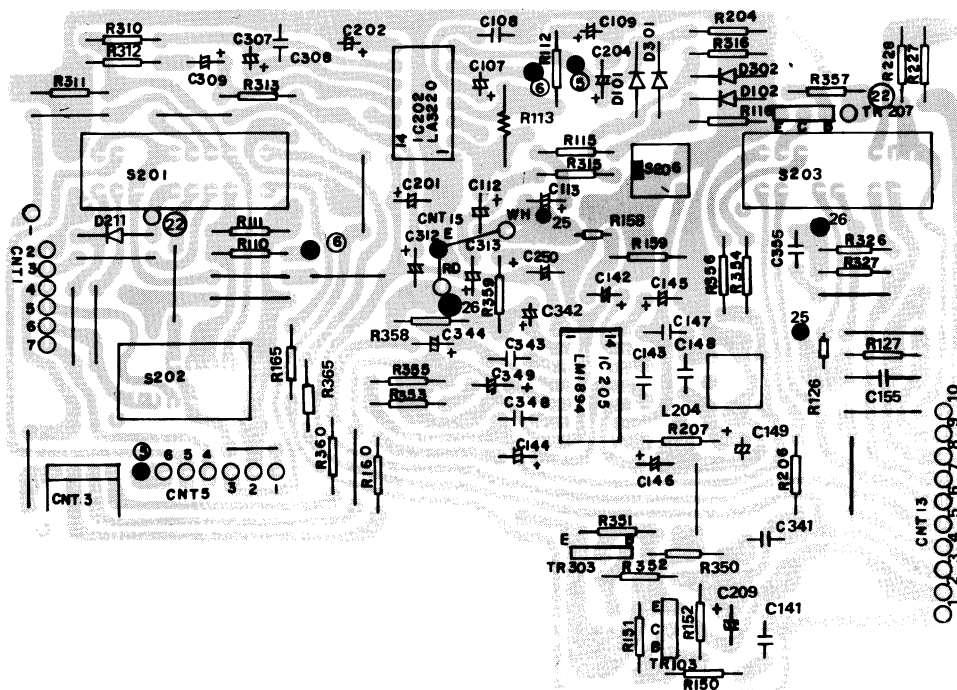


P.C. BOARD (COMPONENTS SIDE) LAYOUT

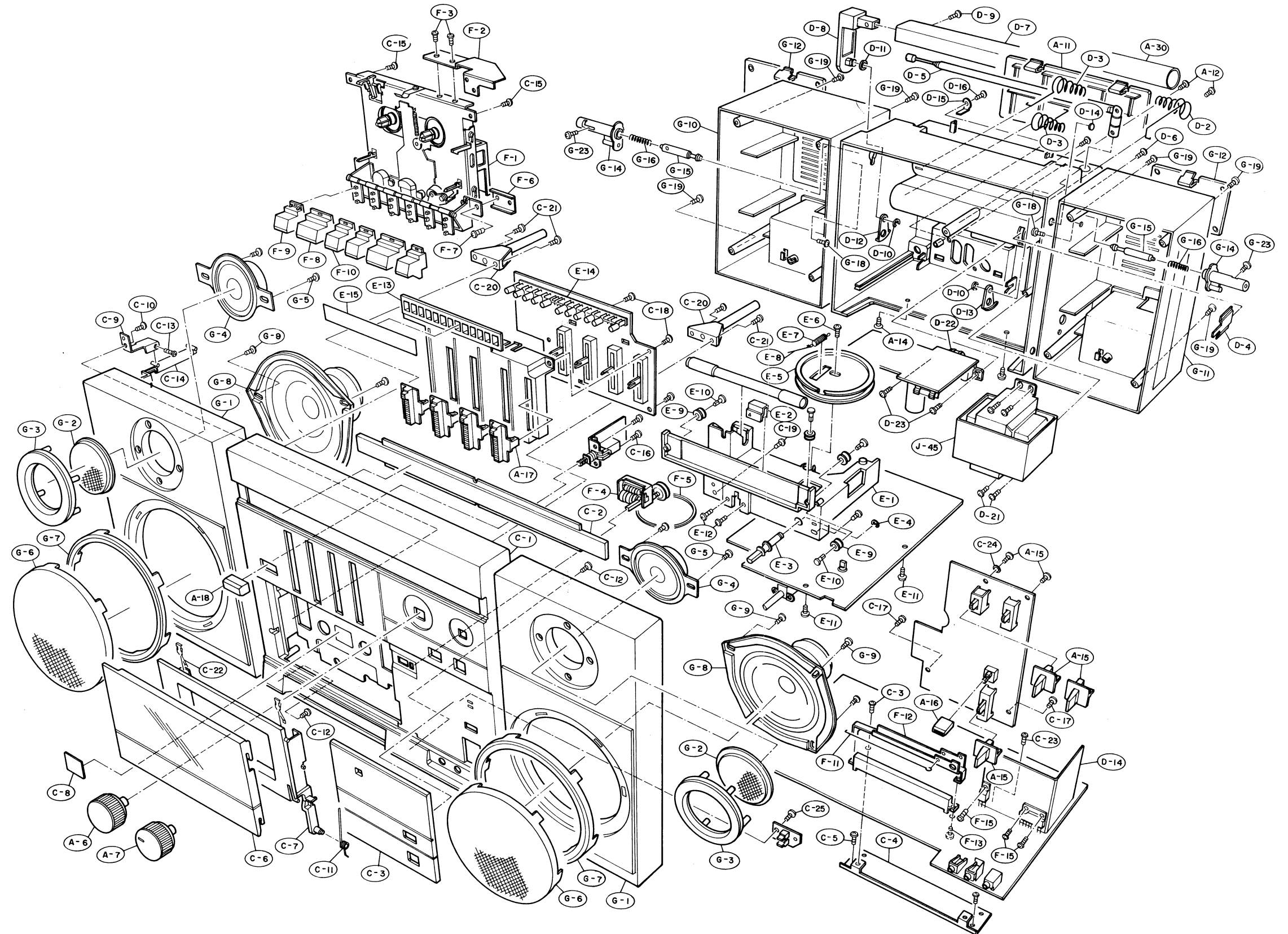
RF P.C. BOARD



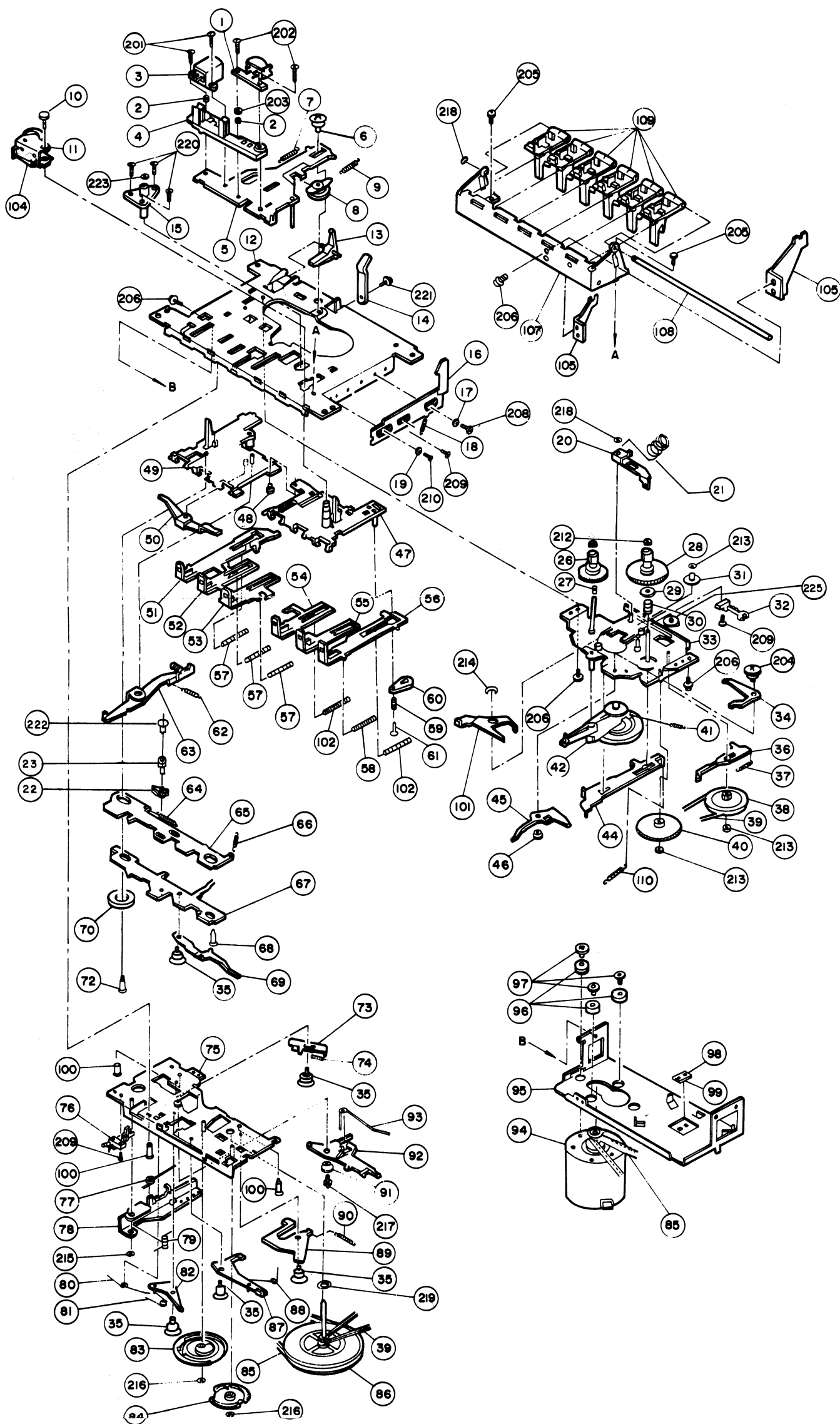
DNR P.C. BOARD




EXPLODED VIEW FOR CABINET



EXPLODED VIEW FOR DECK MECHANISM



ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice of this service manual, don't degrade the safety of the product through improper servicing.

ABBREVIATIONS: Capacitors CC : Ceramic T.C Type
CE : Electrolytic
CK : Ceramic Hi-K Type
CQ : Polyester
CY : Polystyrol
Resistors RD : Carbon Film
RV : Semi-Fixed Resistor
VR : Variable Resistor
Tolerance (Not for CE). D : ±0.5% J : ±5% K : ±10%
M : ±20% Z : +80%, -20%

(All resistors are 1/4W unless otherwise noted)

Ref. No.	Description	Mfr's Part No.	Ref. No.	Description	Mfr's Part No.
CAPACITORS			C40	CE, 0.47µF 50V	CE474F01
C1	CC, 1000PF 50V	CK102Z02	C41	CE, 0.47µF 50V	CE474F01
C2	CC, 5PF	CC050D01	C42	CE, 1µF 50V	CE105F01
C3	CC, 180PF 50V	CC180J01	C43	CE, 1µF 50V	CE105F01
C4	CC, 18PF	CC108K04	C44	CE, 220µF 10V	CE227B01
C5	CC, 30PF 50V	CC30DJ06	C45	CC, 680PF 50V	CC681J01
C6	CC, 5PF 50V	CC050D06	C46	CQ, 0.022µF 50V	CQ222K01
C7	CC, 0.047µF 50V	CK473Z02	C47	CQ, 0.022µF 50V	CQ222K01
C8	CC, 0.01µF 50V	CK103Z02	C48	CC, 0.01µF 50V	CK103Z02
C9	CE, 330µF 6.3V	CE337A01	C49	CC, 0.022µF 50V	CK223Z02
C10	CC, 10PF 50V	CC100D01	C50	CQ, 0.1µF 50V	CQ104K01
C11	CC, 27PF 50V	CC270J01	C51	CE, 4.7µF 50V	CQ104K01
C12	CC, 0.022µF 50V	CK223Z02	C52	CE, 4.7µF 50V	CE475F01
C13	CC, 0.01µF 50V	CK103Z02	C101	CE, 3.3µF 50V	CE335F01
C14	C, Mica 360PF 50V	623-025S	C102	CQ, 0.0039µF 50V	CQ392K01
C15	CC, 18PF 50V	CC180J01	C103	CC, 100PF 50V	CC101J01
C16	C, Mica 200PF 50V	624-025K	C104	CE, 10µF 50V	CE106F01
C-17	CC, 100PF 50V	CC101J01	C105	CQ, 0.0082µF 50V	CQ822K01
C18	CY, 4700PF	CY222J01	C106	CE, 4.7µF 50V	CE475F01
C19	CC, 8PF 50V	CC080D01	C107	CE, 4.7µF 50V	CE475F01
C20	CC, 0.022µF 50V	CK103Z02	C108	CC, 470PF 50V	CC471J01
C21	CC, 0.01µF 50V	CK103Z02	C109	CE, 22µF 25V	CE226D01
C22	CC, 0.022µF 50V	CK223Z02	C112	CE, 10µF 50V	CE106F01
C23	CC, 0.047µF 50V	CK473Z02	C113	CE, 4.7µF 50V	CE475F01
C24	CE, 100µF 6.3V	CE107A01	C122	CQ, 0.0047µF 50V	CQ472K01
C25	CC, 0.022µF 50V	CK223Z02	C123	CQ, 0.022µF 50V	CQ223K01
C26	CC, 0.047µF 50V	CK473Z02	C124	CQ, 0.039µF 50V	CQ393K01
C27	CC, 0.022µF 50V	CK473Z02	C125	CE, 0.1µF 50V	CE104F01
C28	CE, 10µF 16V	CE016C01	C126	CQ, 0.0033µF 50V	CQ332K01
C29	CE, 22µF 16V	CE107A01	C127	CE, 0.47µF 50V	CE474F01
C30	CC, 0.047µF 50V	CK473Z02	C128	CE, 4.7µF 50V	CE475F01
C31	CE, 10µF 16V	CE106C01	C129	CQ, 0.001µF 50V	CQ102K01
C32	CC, 150PF	CC151J01	C130	CE, 100µF 6.3V	CE107B01
C33	CE, 0.47µF 50V	CE474F01	C131	CE, 100µF 10V	CE107B01
C34	CQ, 0.047µF 50V	CQ473M01	C132	CQ, 0.1µF 50V	CQ104K01
C35	CE, 220µF 10V	CE227B01	C133	CE, 470µF 10V	CE477B01
C36	CC, 100PF 5V	CC101J01	C134	CQ, 0.001µF 50V	CQ102K01
C37	CE, 4.7µF 50V	CE475F01	C135	CQ, 0.001µF 50V	CQ102K01
C38	CQ, 0.047µF 50V	CQ473M01	C136	CE, 10µF 50V	CE106F01
C39	CY, 1000PF	CY102J01	C137	CC, 100PF 50V	CC101J01

Ref. No.	Description	Mfr's Part No.	Ref. No.	Description	Mfr's Part No.
C138	CE, 100µF 10V	CE107B01	C334	CQ, 0.001µF 50V	CQ102K01
C139	CQ, 0.022µF 50V	CQ223K01	C335	CQ, 0.01µF 50V	CQ102K01
C140	CE, 4.7µF 50V	CQ223K01	C336	CE, 10µF 50V	CE106F01
C141	CQ, 0.027µF 50V	CQ273K01	C337	CC, 100PF 50V	CE107B01
C142	CE, 1µF 50V	CE105F01	C338	CE, 100µF 10V	CE107B01
C143	CQ, 0.0033µF 50V	CQ332K01	C339	CQ, 0.022µF 50V	CE475F01
C144	CE, 1µF 50V	CE105F01	C340	CE, 4.7µF 50V	CE475F01
C145	CE, 100µF 10V	CE107B01	C341	CQ, 0.027µF 50V	CE273K01
C146	CE, 1µF 50V	CE105F01	C342	CE, 1µF 50V	CE105F01
C147	CQ, 0.047µF 50V	CQ473K01	C343	CQ, 0.0033µF 50V	CQ332K01
C148	CQ, 0.015µF 50V	CQ153K01	C344	CE, 1µF 50V	CE105F01
C149	CE, 0.1µF 50V	CE104F01	C348	CQ, 0.01µF 50V	CQ102K01
C151	CC, 180PF 50V	CC181J01	C349	CE, 0.1µF 50V	CE104F01
C152	CC, 100PF 50V	CC101J01	C351	CC, 180PF 50V	CC181J01
C153	CC, 220PF 50V	CC221J01	C352	CC, 100PF 50V	CC101J01
C155	CQ, 0.0012µF 50V	CQ122K01	C353	CC, 220PF 50V	CC221J01
C201	CE, 220µF 10V	CE227B01	C355	CQ, 0.0012µF 50V	CQ122K01
C202	CE, 220µF 10V	CE227B01	C401	CE, 0.1µ F 50V	CE104F01
C204	CE, 33µF 10V	CE336B01	C402	CE, 0.1µF 50V	CE104F01
C206	CE, 100µF 10V	CE107B01	C403	CQ, 0.0022µF 50V	CQ222K01
C207	CE, 10µF 25V	CE106D01	C404	CQ, 0.0022µF 50V	CQ222K01
C208	CE, 1000µF 25V	CE108D01	C405	CE, 4.7µF 50V	CE475F01
C209	CE, 1µF 50V	CE105F01	C406	CE, 4.7µF 50V	CE475F01
C210	CE, 470µF 10V	CE477B01	C406	CE, 4.7µF 50V	CE475F01
C214	CE, 10µF 25V	CE106D01	C407	CE, 4.7µF 50V	CE475F01
C218	CE, 22µF 16V	CE226C01	C408	CE, 4.7µF 50V	CE475F01
C220	CY, 3300PF 125V	CY332J03	C409	CE, 22µF 50V	CE226C01
C221	CY, 560PF	CY561J01	C410	CE, 22µF 16V	CE226C01
C222	CY, 1000PF	CY102J01	C411	CQ, 0.01µF 16V	CQ103K01
C223	CQ, 0.022µF 50V	CQ223K01	C412	CE, 22µF 16V	CE226C01
C224	CQ, 0.001µF 50V	CQ102K01	C413	CE, 100µF 10V	CE107B01
C225	CQ, 0.0015µF 50V	CQ152K01	C414	CE, 4.7µF 50V	CE475F01
C226	CE, 100µF 10V	CE107B01	C501	CK, 0.022µF 50V	CK223K02
C227	CE, 100µF 10V	CE107B01	C502	CK, 0.022µF 50V	CK223K02
C228	CE, 470µF 10V	CE477B01	C503	CK, 0.022µF 50V	CK223K02
C229	CE, 100µF 10V	CE107B01	C504	CK, 0.022µF 50V	CK223K02
C230	CE, 10µF 50V	CE106F01	C505	CE, 2200µF 25V	CE228D01
C232	CE, 470µF 10V	CE477B01	C510	CE, 1µF 50V	CE105F06
C233	CE, 470µF 10V	CE477B01	C511	Ce, 1µF 50V	CE501F06
C250	CE, 0.1µF 50V	CE104F01	RESISTORS		
C301	CE, 3.3µF 50V	CE335F01	R1	RD, 100k ohm	RD104J23
C302	CQ, 0.0039µF 50V	CQ392K01	R2	RD, 100 ohm	RD101J23
C303	CC, 100PF 50V	CC101J01	R3	RD, 330K ohm	RD334J23
C304	CE, 10µF 50V	CE106F01	R4	RD, 330 ohm	RD331J23
C305	CQ, 0.0082µF 50V	CQ822K01	R5	RD, 56 ohm	RD560J23
C306	CE, 4.7µF 50V	CE475F01	R6	RD, 100 ohm	RD101J23
C307	CE, 4.7µF 50V	CE475F01	R7	RD, 1.8K ohm	RD182J23
C307	CE, 4.7µF 50V	CE475F01	R8	RD, 3.3K ohm	RD182J23
C308	CC, 470PF 50	CC471J01	R9	RD, 100K ohm	RD104J23
C309	CE, 22µF 25V	CE226D01	R10	RD, 100K ohm	RD104J23
C312	CE, 10µF 50V	CE106F01	R11	RD, 330K ohm	RD334J23
C313	CE, 4.7µF 50V	CE475F01	R12	RD, 10K ohm	RD103J23
C322	CQ, 0.0047µF 50V	CQ472K01	R13	RD, 3.3K ohm	RD182J23
C323	CQ, 0.022µF 50V	CQ223K01	R14	RD, 22 ohm	RD220J23
C324	CQ, 0.039µF 50V	CQ393K01	R15	RD, 22 ohm	RD220J23
C325	CE, 0.1µF 50V	CE104F01	R16	RD, 15 K ohm	RD153J23
C326	CQ, 0.0033µF 50V	CQ332K01	R17	RD, 3.9 K ohm	RD392J23
C327	CE, 0.47µF 50V	CE474F01	R18	RD, 10K ohm	RD103J23
C328	CE, 4.7µF	CE475F01	R19	RD, 1K ohm	RD102J23
C329	CQ, 0.001µF 50V	CQ102K01	R20	RD, 6.8K ohm	RD682J23
C330	CE, 100µF 6.3V	CE107A01	R21	RD, 6.8K ohm	RD682J23
C331	CE, 100µF 10V	CE107B01	R22	RD, 3.3K ohm	RD182J23
C332	CQ, 0.1µF 50V	CQ104K01			
C333	CE, 470µF 10V	CE477B01			

Ref. No.	Description	Mfr's Part No.	Ref. No.	Description	Mfr's Part No.
R23	RD, 3.3K ohm	RD182J23	R216	RD, 1.2K ohm	RD122J02
R24	RD, 680 ohm	RD681J23	R217	RD, 39K ohm	RD303J02
R25	RD, 390 ohm	RD391J23	R218	RD, 82K ohm	RD823J02
R26	RD, 12K ohm	RD123J23	R219	RD, 150K ohm	RD154J02
R27	RD, 68 ohm	RD680J23	R220	RD, 22K ohm	RD223J02
R28	RD, 12K ohm	RD123J23	R221	RD, 22K ohm	RD223J02
R29	RD, 1.8K ohm	RD182J23	R222	RD, 27K ohm	RD273J02
R30	RD, 1.8K ohm	RD182J23	R223	RD, 10K ohm	RD103J02
R31	RD, 12K ohm	RD123J23	R225	RD, 10 ohm	RD100J02
R32	RD, 15K ohm	RD153J23	R226	RD, 15K ohm	RD153J02
R33	RD, 10K ohm	RD103J23	R227	RD, 12 ohm	RD120J22
R34	RD, 1.2K ohm	RD122J23	R228	RD, 100 ohm	RD101J22
R35	RD, 2.2K ohm	RD222J23	R229	RD, 100 ohm	RD101J22
R101	RD, 10K ohm	RD103J22	R230	RD, 82 ohm	RD820J22
R102	RD, 47k ohm	RD473J02	R232	RD, 560 ohm	RD561J02
R103	RD, 47K ohm	RD473J22	R233	RD, 100 ohm	RD101J22
R104	RD, 33K ohm	RD333J02	R234	RD, 1K ohm	RD102J22
R105	RD, 1.2K ohm	RD122J22	R301	RD, 10K ohm	RD103J22
R106	RD, 220K ohm	RD224J02	R302	RD, 47K ohm	RD473J02
R107	RD, 33K ohm	RD333J02	R303	RD, 47K ohm	RD333J02
R108	RD, 8.2K ohm	RD822J22	R304	RD, 33K ohm	RD333J02
R109	RD, 1.5K ohm	RD152J22	R305	RD, 1.2K ohm	RD122J02
R110	RD, 2.2K ohm	RD222J22	R306	RD, 220K ohm	RD224J02
R111	RD, 10K ohm	RD103J33	R307	RD, 33K ohm	RD333J02
R112	RD, 330 ohm	RD331J22	R308	RD, 8.2K ohm	RD822J22
R113	RD, 47K ohm	RD473J02	R309	RD, 1.5k ohm	RD152J22
R115	RD, 3.3K ohm	RD332J22	R310	RD, 2.2k ohm	RD222J22
R116	RD, 27K ohm	RD273J22	R311	RD, 10K ohm	RD103J22
R126	RD, 100K ohm	RD103J22	R312	RD, 330 ohm	RD331J22
R127	RD, 18K ohm	RD183J22	R313	RD, 47K ohm	RD473J22
R128	RD, 2.2K ohm	RD222J22	R315	RD, 3.3K ohm	RD332J22
R131	RD, 6.8K ohm	RD682J22	R316	RD, 27K ohm	RD273J22
R132	RD, 2.2K ohm	RD222J22	R326	RD, 10K ohm	RD104J22
R133	RD, 4.7K ohm	RD472J22	R327	RD, 18K ohm	RD183J02
R134	RD, 1.2K ohm	RD122J22	R328	RD, 2.2K ohm	RD222J02
R135	RD, 2.2K ohm	RD222J22	R331	RD, 6.8K ohm	RD682J22
R136	RD, 3.3K ohm	RD332J22	R332	RD, 2.2K ohm	RD222J02
R137	RD, 33K ohm	RD333J02	R333	RD, 4.7K ohm	RD472J22
R138	RD, 18 ohm	RD180J22	R334	RD, 1.2K ohm	RD122J22
R142	RD, 150 ohm	RD151J02	R335	RD, 2.2K ohm	RD222J22
R144	RD, 10K ohm	RD103J02	R336	RD, 3.3K ohm	RD332J22
R145	RD, 330 ohm	RD331J02	R337	RD, 33K ohm	RD333J02
R146	RD, 100K ohm	RD104J22	R338	RD, 18 ohm	RD180J22
R147	RD, 5.6K ohm	RD562J22	R339	RD, 4.7 ohm	RD47J03
R148	RD, 6.8K ohm	RD682J22	R342	RD, 150 ohm	RD151J03
R149	RD, 2.2K ohm	RD222J22	R344	RD, 10K ohm	RD103J02
R150	RD, 3.3K ohm	RD332J22	R345	RD, 330 ohm	RD331J22
R151	RD, 270K ohm	RD274J22	R346	RD, 100K ohm	RD104J02
R152	RD, 10K ohm	RD103J22	R347	RD, 1.2K ohm	RD562J02
R158	RD, 2.2K ohm	RD222J02	R348	RD, 6.8K ohm	RD682J02
R159	RD, 22K ohm	RD223J22	R349	RD, 2.2K ohm	RD222J02
R160	RD, 1K ohm	RD102J22	R350	RD, 3.3K ohm	RD332J22
R165	RD, 8.2K ohm	RD822J22	R351	RD, 270K ohm	RD274J22
R190	RD, 82K ohm	RD823J02	R352	RD, 10K ohm	RD103J22
R200	RD, 5.6K ohm	RD101J02	R353	RD, 820 ohm	RD821J22
R201	RD, 100 ohm	RD101J22	R354	RD, 270 ohm	RD271J22
R204	RD, 10 ohm	RD100J22	R355	RD, 10 ohm	RD100J22
R205	RD, 1K ohm	RD010K03	R356	RD, 15K ohm	RD153J22
R206	RD, 1K ohm	RD102J22	R357	RD, 22K ohm	RD223J22
R207	RD, 100 ohm	RD101J22	R358	RD, 2.2K ohm	RD222J22
R208	RD, 1K ohm	RD102J22	R359	RD, 22K ohm	RD223J22
R211	RD, 15K ohm	RD153J02	R360	RD, 1k Ohm	RD102J22
R212	RD, 100 ohm	RD101J02	R365	RD, 8.2K ohm	RD823J22
R214	RD, 1K ohm	RD102J02	R390	RD, 82K ohm	RD823J02
R215	RD, 1.2K ohm	RD122J02	R401	RD, 10K ohm	RD103J22

Ref. No.	Description	Mfr's Part No.	Ref. No.	Description	Mfr's Part No.
R402	RD, 10K ohm	RD103J22	D101	1S2472 (T-77)	652T605B
R403	RD, 8.2K ohm	RD822J01	D102	1S2472 (T-77)	652T605B
R405	RD, 8.2K ohm	RD822J01	D201	1S2472	652-605B
R406	RD, 3.9K ohm	RD392J01	D202	1S2472 (T-77)	652T605B
RV1	VR, Semi Fixed 5KB	RD103J22	D203	1S2472	652-605B
VR201	VR, S3028-100KA x 2 -Trable	613-021D	D204	1S2472	652-605B
VR202	VR, S3028-100KB #2-Base	612-610A	D206 Δ	Zener, VZ10V	654-623G
VR203	VR, S3028-20KB x 2-Volume	612-610D	D209	1S2472	652-605B
VR204	VR, S3018-20KW-Balance	612-613A	D210 Δ	Zener, APD 5.6	654-608D
CONNECTORS			D211	1S2472 (T-77)	652T605B
CNT1	Connector Ay - DNR, RF	HGG-200F	D301	1S2472 (T-77)	652T605B
CNT2	Connector Ay-FM, Ant	EMA-200J	D302	1S2472 (T-77)	652T605B
CNT3	Connector Ay-DNR, VR	HLD-101I	D401	LED, KLR114E	653-022A
CNT4	Connector Ay-Main, VR	HBE-202G	D402	LED, KLR114E	653-022A
CNT5	Connector Ay-Main, DNR	HCF-202I	D403	LED, KLR114E	653-022A
CNT6	Connector Ay-Power, Main	HCC-200H	D404	LED, KLR114E	653-022A
CNT8	Connector Ay-Main, Motor	HGG-300F	D405	LED, KLR114E	653-022A
CNT9	Connector Ay-Main, R/P Head	HHF-002I	D406	LED, KLR114E	653-022A
CNT10	Connector Ay-Main, Erase Head	HFB%010G	D407	LED, KLR114E	653-022A
CNT11	Connector Ay-Power, DC Battery	HBB+200F	D408	LED, KLR114E	653-022A
CNT12	Connector Ay-Led, Main	HCC+200G	D409	LED, KLR114E	653-022A
CNT13	Connector Ay-Main, DNR	HJJ-100F	D410	LED, KLR114E	653-022A
CNT15	Connector-DNR, Main	HAC+002J	D411	LED, KLG114E	653-023A
INTEGRATED CIRCUITS			D412	LED, SLB26UR3	653-611H
IC1	LA1185-FM Fnd	668-108E	D413	LED, SLB26UR3	653-611H
IC2	KIA7640AP-AM/FM IF	668-192A	D501	DIODE RECT MI-151	652-021C
IC3	KA2261-MPX	668-162B	D502	DIODE RECT MI-151R	652-021D
IC202	LA3220-EQ	668-163A	COILS AND TRANSFORMERS		
IC203	HA1392-Audio	668-625A	L1	Coil, FM RF	635-013B
IC204	LA3160-Pre Amp	668-145A	L2	Coil, FM OSC	635-003B
IC205	LM1894-DNR	668-656A	L3	Coil, MW/LW Ant	632-203E
IC206	GL7808-Regulator	668-084B	L4	Coil, SW Ant 5.7-18.5 MHz	634-020F
IC401	AN6888	668-211A	L5	Coil, MW OSC 7	634-015C
TRANSISTORS			L6	Coil, LW OSC 7	634-037F
TR1	KTC380TM-O	665-820B	L7	Coil, SW OSC 5.7-18.5 MHz	634-020E
	or KTC1959-Y	665-814B	L8	Coil, Padding 3.3mH	639-003N
TR2	KTC1959-Y	665-814B	L102	Coil, Peaking 33mH	637-005B
TR103	KTC1959-Y	665-814B	L201	Coil, Tape OSC	634-605H
TR104	KTC1959-Y	665-814B	L202	Coil, Padding 4.7μH	639-003I
TR201	KTA562TM-O	665-815A	L302	Coil, Peaking 33mH	637-005B
TR202	KTC1959-Y	665-814B	IFT1	Trans, FM IF 7	644-018F
TR203	KTA562TM-O	665-815A	IFT2	Trans, MW IF 7	644-030M
TR204	KTC1959-Y	665-814B	IFT3	Trans, MW IF 7	644-039M
TR205	KTC1959-Y	665-814B	IFT4	Discriminator 7	647-011F
TR206	KTC1959-Y	665-814B	SWITCHES AND JACKS		
TR207	KTC1959-Y	665-814B	S1	SW, SRZ-S084N-Band	551-620D
TR208	GS-2013H	661N027A	S201	SW, SSP043-Function	552-642A
TR303	KTC1959-Y	665-814B	S202	SW, SSP042-N-Mode	552-642B
TR304	KTC1959-Y	665-814B	S203	SW, SSP062-S-Tape Select	552-642C
DIODES			S204	SW, Slide CL110K-S-Rec/PE	552-035F
D1	1S2236	654-418A	S205	SW, Slide KSA4251-Line/Phn	552N077A
D2	Zener, ZPD5,6	654-608D	S206	SW, Push SPH121C	554-618C
D3	1S2472	652-605B	S207	SW, Slide KSA-2317-Rif	552-641C
D4	1S2472	652-605B	S208	SW, SDWIP Hole 3.2-Power	554-620C
D5	1S2472	652-605B	J101	Jack, Earphone	571-001C
D6	1S2472	652-605B	J102	Jack, HSJ0800-01-020-Mic	571-620D
			J202	Socket, Din	573-051B
			J203	Jack, Headphone	571-102A

NOTES
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Ref. No.	Description	Mfr's Part No.	Ref. No.	Description	Mfr's Part No.
J301	Jack , Earphone	571-001C	CT5	Trimmer	623N023B
J302	Jack , HSJ0800-01-020-Mic	571-620D	CT7	Trimmer	623N023H
J501	Jack, 2P Socket	577-004B	CT8	Trimmer,	623N023B
OTHERS			VC1-4	Varicon,	622N048E
CF1	Filter, Ceramic	616-010A	TC1-4	Varicon	622N048E
CF2	Filter, Ceramic	616-003E	F501 Δ	Fuse, 250V, 3A	585-116B
LPF1	Filter, Ceramic	616-009A		Power Trans 220V	641-703C
LPF2	Filter, Ceramic	616-009A			
BPF	Filter, Band Pass	616-011A			
CT4	Trimmer	623N023B			

MECHANICAL PARTS LIST

Cabinet

Ref. No.	Description	Mfr's Part No.	Ref. No.	Description	Mfr's Part No.
A-6	Knob, Tuning	271-177A	E-1	Chassis, Tuner	313-659A
A-7	Knob, Band Select	273-392A	E-2	Pointer	361-664A
A-11	Cover, Battery	221-625A	E-3	Shaft, Tuning	423-014A
A-12	Screw, Special Tapping 2x6	353-025R	E-4	E-Ring, WEO-3	WEO1800Q
A-14	Screw, TCQ+3x8	TCQ1836J	E-5	Pulley Varicon	432-617A
A-15	Knob, Switch	273-391A	E-6	Screw, MPC+2.6x6	MPC-1530J
A-16	Knob, Dolby	273-756A	E-7	Spring, Dial	442-014A
A-17	Knob, Volume	272-250A	E-8	Cord, Dial	885-0008
A-18	Knob, Power	273-755A	E-9	Rollor	434N031A
A-30	Case, Battery	217N224A	E-10	Shaft, Roller	423N254A
C-1	Case, Front	217-720A	E-11	Screw, Special	353-025F
C-2	Window, Dial	236-618A	E-12	Screw, MPC+3x6	MPC1830J
C-3	Cover, Decoration	221-626A	E-13	Chassis, Volume	313-660A
C-4	Bracket PCB (Main)	321-967A	E-14	Holder, LED	324-504A
C-5	Screw, TCQ+3x8	TCQ1836J	E-15	Cover, LED	221-629A
C-6	Window, CST	236-622A	F-1	Deck, Mechanism	412-077H
C-7	Door, Cassette	226-114A	F-2	Bracket, Counter	321-969A
C-8	Plate, Reflections	256N261A	F-3	Screw, TRQ2+2, 6x6	TRQ1530J
C-9	Bracket, Damper	321-831A	F-4	Tape, Counter	517-112A
C-10	Screw, Special	353-025F	F-5	Belt, Counter	451-145M
C-11	Spring, CST Door	442-922A	F-6	Bracket, Deck MTG	321-839A
C-12	Screw, Special	353-025C	F-7	Screw, MPC+3x6	MPC1830J
C-13	Screw, MRC+2x14	MPC0943J	F-8	Knob, Deck (A)	273-757A
C-14	Damper	444-100A	F-9	Knob, Deck (B)	273-758A
C-15	Screw, TRQ2+3x12A	TRQ1841J	F-10	Knob, Deck (C)	273-759A
C-16	Screw, Special	353-025F	F-11	Switch, Joint Rec	331-009A
C-17	Screw, Special	353-025F	F-12	Switch, Bracket Rec	321-968A
C-18	Screw, TRQ2+3x12A	TRQ1841J	F-13	Screw	MPC0930J
C-19	Screw, TRQ2+3x12A	TRQ1841J	F-14	Heat Sink, Plate	255-913A
C-20	Boss, Joint	381-002A	F-15	Screw, TRQ2+3x6A	TRQ1830J
C-21	Screw, Special	353-025J	F-18	Knob, Deck (A) Stop	273-757B
C-22	Spring, Cassette	442-211A	F-19	Knob, Deck (B) FF	273-758B
C-23	Screw, TRQ2+3xBA	TRQ1836J	F-20	Knob, Deck (C) Pause	273-759B
C-25	Screw, Special	353-025F	G-1	Case, Speaker Front	217-718A
D-1	Case, Rear	217-721A	G-2	Grille (T) Speaker	224-057A
D-2	Spring, Battery-C	442-716A	G-3	Ring (T) Speaker	345-041A
D-3	Spring, Battery-A	442-714A	G-4	Speaker	541-139A
D-4	Terminal, Battery	563N126A	G-5	Screw, Special	353-052C
D-5	Antenna, Rod	532-007C	G-6	Grille (W) Speaker	224-056A
D-6	Screw, Mac+3x18	MAC1845L	G-7	Ring (W) Speaker	345-040A
D-7	Handle Ay	261-035A	G-8	Speaker 120K21	541-101L
D-10	Washer, E-Ring	WEO2200Q	G-9	Screw, Special	753-052C
D-11	Washer, Handle	354-903A	G-10	Case, Speaker Rear-LM	217-719A
D-12	Bracket, Speaker	321-538A	G-11	Case, Speaker Rear-RH	217-719B
D-13	Bracket, Speaker	321-539A	G-12	Cover, Cord	221-441B
D-14	Cushion, S/P	447-059A	G-13	Speaker, Cord 3.50 Mono 1MZ	564-003A
D-15	Lug, GND	562N056A	G-14	Housing Sp Holder XLC-555	219-045A
D-16	Screw, Special	353-025L	G-15	Holder, Speaker	324-199C
D-21	Screw, Special	353-052C	G-16	Spring, Speaker	442-044A
D-22	Socket, Ay	577-004B	G-18	Screw, Tapping	TCQ1839J
D-23	Screw, Special	353-025G	G-19	Screw, Special	353-025R
			G-23	Screw	MPC0930J

Deck Mechanism

Ref. No.	Description	Mfr's Part No.	Ref. No.	Description	Mfr's Part No.
1	R/P Head	99T-0708	70	Spacer	99T-0698
2	Head Spring	99T-0600	72	Collar Screw	99T-0647
3	Erase Head	99T-0408	73	Rec Fun Lever	99T-0648
4	Head Base	99T-0312	74	Auto Lever Ang Spring	99T-0649
5	Head Panel Ay	99T-0601	75	Sub Chassis Ay	99T-0342
6	Collar Screw	99T-0602	76	Leaf S/W	99T-0343
7	Head Panel Spring	99T-0603	77	Rec Damper Spring	99T-0344
8	Take Up Roller Shaft Ay	99T-0314	78	Rec Function Arm	99T-0345
9	T-Up Roller Shaft Spring	99T-0604	79	Rec Fun Arm Spring	99T-0650
10	Function Lever Stop	99T-0315	80	M Gear Spring	99T-0346
11	Pinch Roller Arm Ay	99T-0316	81	M Trigger Arm Spring	99T-0347
12	Chassis	99T-0605	82	M Trigger Arm Ay	99T-0699
13	Rec Safety Lever	99T-0317	83	M Gear	99T-0348
14	Pack Hold Spring	99T-0318	84	P Gear	99T-0349
15	Flywheel Metal	99T-0607	85	Main Belt	99T-0350
16	Eject Slide Lever	99T-0684	86	Flywheel Ay	99T-0700
17	Collar	99T-0608	87	T Trigger Arm Ay	99T-0652
18	EH Base Spring	99T-0320	88	P Trigger Arm Spring	99T-0351
19	Collar	99T-0609	89	Pause Arm Ay	99T-0653
20	Control Lever	99T-0610	90	Pause Arm Spring	99T-0654
21	Control Lever Spring	99T-0611	91	Lift Arm Collar	99T-0655
26	Supply Reel Ay	99T-0691	92	Lift Arm Ay	99T-0353
27	Back Tension Spring	99T-0692	93	Lift Arm Spring	99T-0701
28	Take Up Reel Ay	99T-0693	94	Motor Ay	99T-0709
29	Sensing Piece	99T-0325	95	FM Hold Plate	99T-0356
30	Sensing Piece Spring	99T-0694	96	Motor Rubber	99T-0357
31	FF Gear	99T-0617	97	Collar Screw	99T-0358
33	Reel Base Ay	99T-0695	98	Flywheel Patch Plate	99T-0359
34	T-Roll Kick Lever	99T-0619	99	Damper Spring	99T-0360
35	Collar	99T-0696	101	Kick Lever	99T-0686
36	Sensing Lever	99T-0330	100	Collar Screw	99T-0361
37	Sensing Lever Spring	99T-0621	102	Button Lever Spring	99T-0657
38	Pully	99T-0331	103	Collar	99T-0658
39	Full Auto Belt	99T-0707	104	Pinch Roller Spring	99T-0659
40	Cam Gear	99T-0622	105	Stopper	99T-0660
41	RF Clutch Arm Spring	99T-0697	107	Button Frame	99T-0363
42	RF Clutch Arm Ay	99T-0334	108	Button Lever Shaft	99T-0364
44	RF Slide Lever Ay	99T-0623	109	Operation Lever	99T-0365
45	Auto Lever	99T-0624	110	RF Slide Lever Spring	99T-0703
46	Auto Lever Collar	99T-0625	201	Pan Screw 2x8	99T-0664
47	Button Base L	99T-0626	202	Pan Screw 2x7	99T-0665
48	Collar Screw	99T-0627	203	Washer 2.1x5x0.2	99T-0666
49	Button Base R	99T-0628	204	Collar Screw	99T-0667
50	Rec Stopper	99T-0336	205	Tams Screw 2.6x4	99T-0668
51	Rec Button Lever	99T-0629	206	Tams Screw 2x4	99T-0371
52	Play Button Lever	99T-0630	208	Tap Screw 2.6x5	99T-0670
53	Rwd Button Lever	99T0631	209	Pan Screw 2x4	99T-0671
54	FF Button Lever	99T-0632	210	Tams screw 2x6	99T-0672
55	Stop Button Lever	99T-0633	212	E Ring Special	99T-0690
56	Pause Button Lever	99T-0634	213	Polywasher 1.2x3	99T-0674
57	Button Lever Spring	99T-0635	214	E Ring 1.2	99T-0675
58	Button Lever Spring	99T-0636	215	E Ring 3.0	99T-0676
59	Pause Lever Spring	99T-0637	216	E Ring 2.0	99T-0677
60	Pause Lever	99T-0337	217	Tams Screw 2.6x6	99T-0678
61	P Stopper	99T-0338	218	E Ring 1.5	99T-0679
64	SW Function Lever Spring	99T-0640	219	Poly Washer 2.2x0.5	99T-0705
65	Push Button Function Lever	99T-0340	220	Fh Screw 2x3	99T-0681
66	Push Button Spring	99T-0642	221	Tapping Screw	99T-0368
67	SW Function Lever	99T-0341	223	Nylon Washer 2x5	99T-0683
68	Collar Screw	99T-0643	225	Poly Washer 5.2x013	99T-0706
69	E Kick Lever	99T-0644			

TRANSISTOR & IC LEAD IDENTIFICATION AND IC INTERNAL DIAGRAM

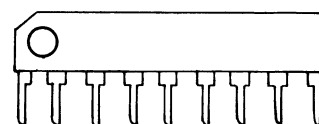
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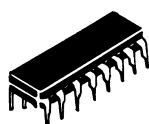
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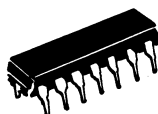
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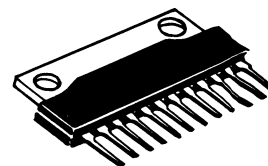
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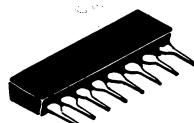
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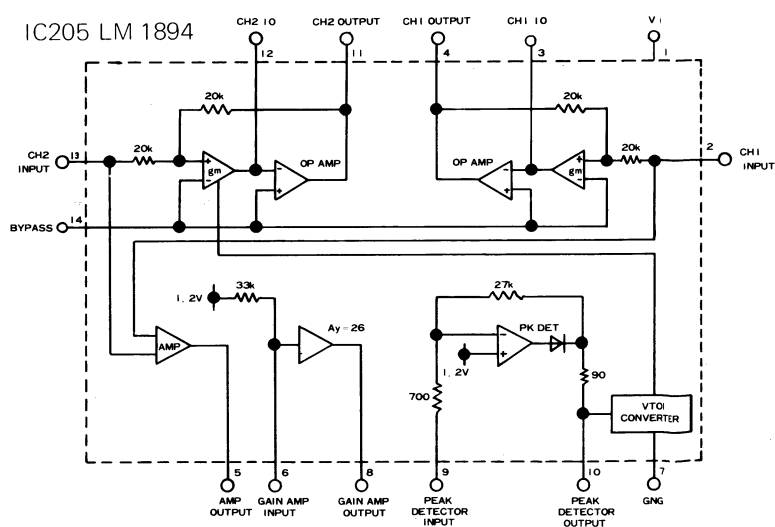
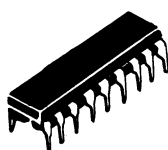
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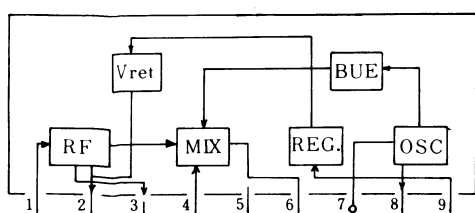
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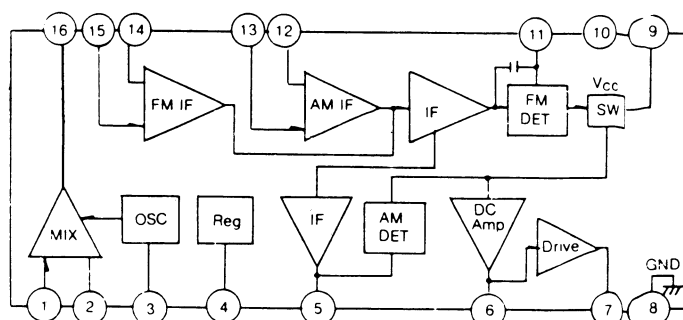
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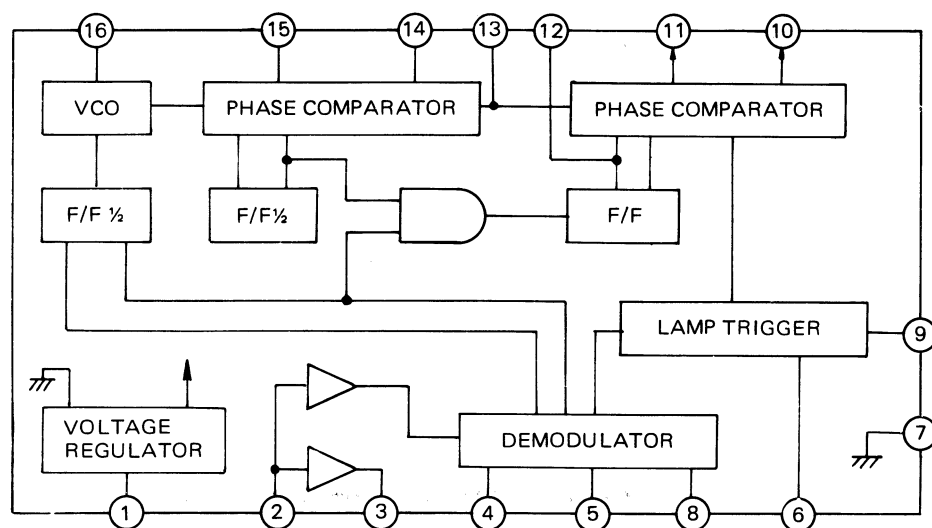
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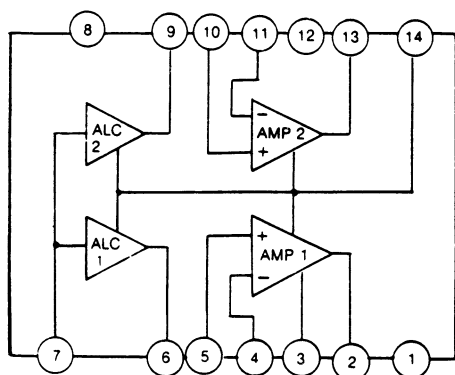
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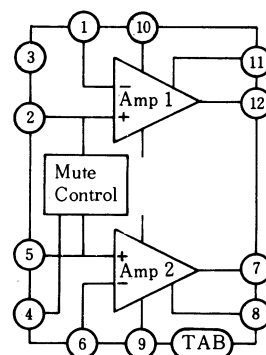
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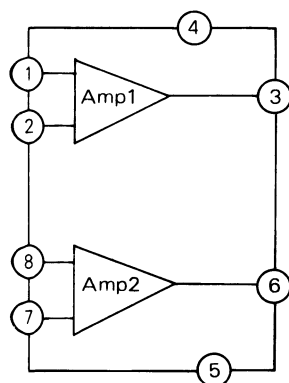
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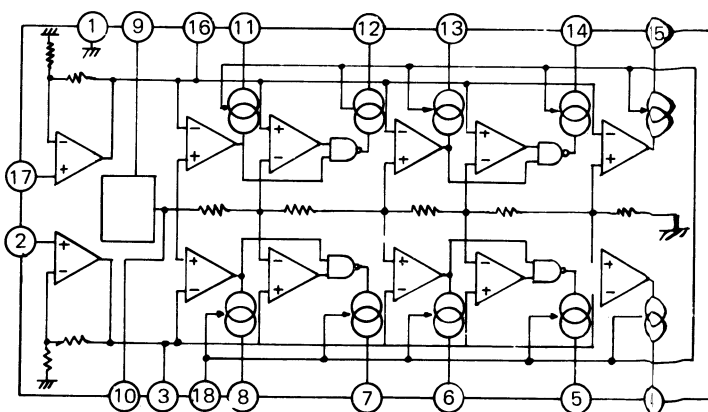
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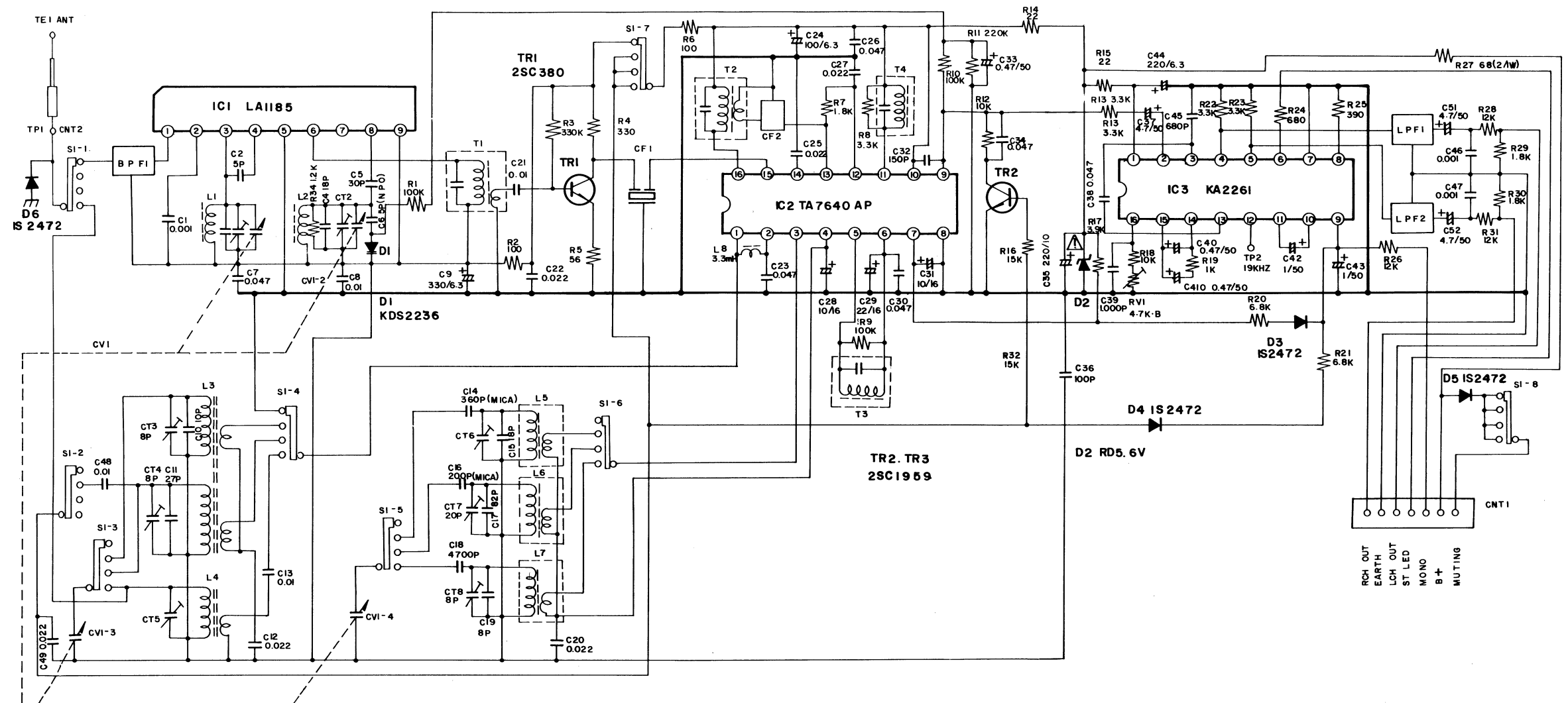
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SCHEMATIC DIAGRAM FOR RF PART



NOTES

1. ALL RESISTORS ARE 10% TOLERANCE 1/4 WATT CARBON UNLESS OTHERWISE SPECIFIED.
2. RESISTANCE VALUES IN OHMS CAPACITANCE IN MICROFARDS UNLESS OTHERWISE SPECIFIED.
3. THIS SCHEMATIC DIAGRAM MAY BE CHANGED FOR IMPROVEMENT OF PERFORMANCE WITHOUT NOTICE.

SCHEMATIC DIAGRAM FOR AUDIO PART

